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Replacing Pain Killers with Hypnosis

German dentist Albrecht Schmierer operates on 19-year-old Alexis Makris without giving him anything for the pain but hypnotic suggestion.

Alexis Makris, a 19-year-old hairdresser's apprentice from Stuttgart, Germany, is jogging along a sunny beach in Greece. He's not interested in the cold steel hook poking around in his upper left jaw, or the latex-covered fingers of the dentist wielding the instrument in his mouth. He's too occupied with the smell of the salt sea air and the feel of the warm sand on his feet. When the tug of the wisdom tooth being pulled from his mouth becomes a little too insistent, he picks up his pace. As the tooth is finally yanked out, accompanied by a small gush of bright red blood, Makris is still running, oblivious to any pain.

Of course, Makris is jogging down that sandy strand only in his mind. His body is stretched out on a reclining chair in the Stuttgart office of dentist Albrecht Schmierer, who has just extracted Makris' wisdom tooth because it was crowding out its neighbors. No anesthetic was used to make the procedure bearable. Instead, Makris was induced by hypnosis to concentrate on his favorite place (that Greek beach) and his favorite sport (running). While under hypnosis, he heard everything that was happening and felt the pressure and ache in his jaw but, in his words, he didn't pay any attention to it. I was there but I wasn't there. And I didn't even notice when the tooth was actually pulled. It was awesome.

Increasingly, dentists, physicians and surgeons are using hypnosis to replace, or at least reduce, the use of painkillers as well as general and local anesthetics. Hypnosis may not be the method of choice for major operations, but for a growing number of procedures ranging from kidney stone fragmentation to minor surgery to childbirth it has proved an effective alternative to conventional sedatives and analgesics. Hypnosis is real, says psychiatrist David Spiegel, a professor in the Department of Psychiatry and Behavioral Sciences at the Stanford University School of Medicine. It's no less palpable an analgesic than medication.

Many people are allergic to painkillers and anesthetics, so hypnosis is a crucial option for them. But hypnosis can also help prevent or reduce unwanted side effects. Makris, for example, doesn't have a numb or swollen cheek. It's the injection of anesthetics itself that disturbs the circulation and causes the tissue to swell, explains Schmierer, president of the German Society for Dental Hypnosis. People plagued by fear of needles or fear of going to the dentist also benefit from hypnotherapy, he adds.

Studies have confirmed these and other effects. Marie-Elisabeth Faymonville, an anesthetist at Leige University Hospital in Belgium, has used hypnosis during dozens of thyroidectomies, surgical removal of the thyroid gland. All her patients not only reported a very pleasant experience but had significantly less post-operative pain. They were also able to leave the hospital sooner and return to work faster than patients who received standard sedation for the same surgery, resulting in cost savings for hospitals and health-care insurers.

Hypnosis from the Greek word *hypnos*, meaning sleep was used as medical treatment as far back as the ancient Greeks. In mid-19th-century India, British physician James Esdaile first employed it during surgery. But after ether, chloroform and laughing gas were introduced, the practice was forgotten. In following decades, hypnosis largely fell into disuse, acquiring connotations of quackery and stage trickery. Only after American psychiatrist Milton Erickson rediscovered the technique in the 1950s did hypnosis become accepted again as a means of medical, dental and psycho-therapeutic practice.

Contrary to popular belief, people under hypnosis can't be made to do things they wouldn't normally do. They are simply in a state of highly focused attention, with a constriction in peripheral awareness and heightened responsiveness to social cues, Stanford School of Medicine's Spiegel explains. It is most similar to the everyday state of becoming so absorbed in a good movie or a novel that one enters the imagined world and suspends awareness of the usual one. While this condition lasts, a patient may feel distanced from his surroundings but can still actively cancel the trance at all times if conditions make that seem necessary, Schmierer says.

So how do you put someone in such a state of mind? In Makris' case, he lays down on the reclining chair and Schmierer starts with gentle conversation about how he feels slightly nervous and how he slept the previous night quite well, thank you. Then Schmierer raises his finger and asks Makris to focus on it while he breathes slowly. Once his finger touches Makris' forehead, Schmierer says, you will be in hypnosis.

Then the dentist and his wife, Gudrun, a psychologist who sits next to Makris during the procedure, weave a gentle web of suggestions. Raise your left hand, they say in slow, low voices. It will become cool and numb, just like your jaw. Imagine your right arm is a lightning rod and send all negative sensations out through its fingertips. Your mouth now feels like it's filled with ice cubes. You're moving farther and farther away from all this, out of this room, out of this moment, to a wonderful place where you do what you want to do.

Makris' eyes close, his breathing slows and his muscles relax. When he opens his mouth, the 10-minute extraction procedure begins. All the while, Schmierer and his wife continue to talk, commenting on the sounds that come and go and sensations like the prick of the dental implement that simply feels like a toothpick. When Makris appears distressed by the pressure of the forceps used to pull out his tooth they urge him to go into a deeper trance. And he does because, he says, I wanted to get away from it all. After the tooth is out, Schmierer finishes with several useful suggestions to improve the healing process, and the awakening phase begins.

New imaging techniques have recently started to reveal what occurs under hypnosis, and why pain that would otherwise lead to severe discomfort becomes bearable. Using functional magnetic resonance imaging (fMRI) scans, Sebastian Schulz-Stubner and his team at Aachen University in Germany measured the brain activity of 12 healthy volunteers who received repeated heat stimulation to their skin. The researchers found that hypnosis interrupted the pain signals that normally travel from the nerve cells to the primary somatosensory cortex, where the sensation of pain is elicited. Instead, the signals fizzled out in the subcortical region, failing to produce the normal ouch effect.

Not everybody can profit from medical hypnosis, however. As a general rule, Schmierer cautions, hypnosis shouldn't be used with people suffering from severe depression or psychiatric disorders, since they may be less able to differentiate between reality and hypnotic suggestion. Hypnosis isn't recommended for people under the influence of alcohol either, or in cases where there hasn't been a proper medical diagnosis. And then there's the roughly 5 to 10 percent of the population that can only be hypnotized with great difficulty, Schmierer says, because of a lack of imagination and an inability to concentrate or plain suspicion of the procedure.

Although the number of dentists, physicians and psychotherapists who employ hypnosis is growing, it will take quite some time before the technique goes mainstream, according to Eric Vermetten, president of the Netherlands-based International Society of Hypnosis. What we need is for it to become a part of the medical curriculum, he argues, and for such bodies as the World Health Organization to recognize its use for certain indications. Until that happens, the circle of patients who, like Makris, can profit from hypnosis will remain comparatively small. It's sad, says Vermetten. Hypnosis can do so much good with so little.

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